

What is Claimed is:

1. A valve assembly comprising:
 - a) a valve body defining an axial bore and having opposed upstream and downstream end portions, the upstream end portion including a fluid inlet, the downstream end portion including a fluid outlet and defining an sealing face positioned adjacent to the axial bore, the valve body further including at least one flow passage for facilitating fluid communication between the fluid inlet and the fluid outlet;
 - b) an elongated piston member disposed at least partially within the axial bore of the valve body and having opposed upstream and downstream ends, the piston member mounted for movement between an open position and a closed position, wherein the downstream end of the piston member is spaced from the interior sealing face of the valve body in the open position to permit fluid flow through the valve body, and the downstream end of the piston member engages the interior sealing face of valve body to suspend the flow of fluid through the valve body in the closed position; and
 - c) biasing means operatively associated with the piston member for urging the piston member to the closed position.
2. A valve assembly as recited in claim 1, wherein a port is formed in the valve body, and the port extends radially from an exterior of the valve body to the axial bore allowing gas to be exhausted therefrom.
3. A valve assembly as recited in claim 1, wherein the biasing means includes a spring element.

4. A valve assembly as recited in claim 3, wherein the biasing means is a helical spring.

5. A valve assembly as recited in claim 1, wherein the biasing means includes a gas contained within the axial bore and compressed when the piston member is in the open position.

6. A valve assembly as recited in claim 1, wherein the downstream end of the piston member includes a sealing ring for engagement with the interior sealing surface of the valve body.

7. A valve assembly as recited in claim 1, wherein the biasing means is disposed within the axial bore of the valve body adjacent to the upstream end of the piston member.

8. A valve assembly comprising:
- a) a valve body defining an axial bore and having opposed upstream and downstream end portions, the upstream end portion including a fluid inlet, the downstream end portion including a fluid outlet, the valve body further defining flow passages positioned radially outward of the axial bore and extending axially between the fluid inlet and the fluid outlet;
 - b) an elongated piston member disposed at least partially within the axial bore of the valve body and having opposed upstream and downstream ends,

the piston member mounted for movement between an open position and a closed
10 position;

c) biasing means operatively associated with the piston member
for urging the piston member to the closed position; and

d) a retainer element engage with the downstream end portion of
the valve body and defining an interior sealing face adjacent to the axial bore, the
15 downstream end of the piston member is spaced from the interior sealing face of the
retainer member in the open position to permit fluid flow through the valve body, the
downstream end of the piston member engages the interior sealing face of retainer
member to suspend the flow of fluid through the valve body in the closed position.

9. A valve assembly as recited in claim 8, wherein a port is formed in the
valve body, and the port extends radially from an exterior of the valve body to the
axial bore allowing gas to be exhausted therefrom.

10. A valve assembly as recited in claim 8, wherein the biasing means
includes a spring element.

11. A valve assembly as recited in claim 10, wherein the biasing means is
a helical spring.

12. A valve assembly as recited in claim 8, wherein the biasing means
includes a gas contained within the axial bore and compressed when the piston
member is in the open position.

13. A valve assembly as recited in claim 8, wherein the downstream end of the piston member includes a sealing ring adapted and configured for engagement with the interior sealing surface of the retainer element.

14. A valve assembly comprising:

a) a valve body having upstream and downstream end portions and defining an axial core and an axis for the valve assembly, the valve body further defining flow passages extending therethrough between the upstream and downstream end portions, the downstream end portion defining a valve seating surface adjacent to the axial core;

b) a piston mounted for axial movement within the axial core between and open and a closed position; and

c) a biasing element disposed within the axial core and operatively associated with the piston, the biasing element for urging the piston in the closed position, the piston is engaged with the seating surface of the valve body in the closed position so as to prevent fluid flow through the valve, fluid pressure urging the piston in the upstream direction away from the seating surface of the valve body to the open position.

15. A valve assembly as recited in claim 14, wherein a port is formed in the valve body, and the port extends radially from an exterior of the valve body to the axial bore allowing gas to be exhausted therefrom.

16. A valve assembly as recited in claim 14, wherein the biasing element is a metal spring.

17. A valve assembly as recited in claim 16, wherein the biasing element is a helical spring.

18. A valve assembly as recited in claim 14, wherein the biasing element includes a gas contained within the axial bore and compressed when the piston member in the open position.